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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,397	09/30/2003	Chi-Yu Yen	2019-0222P	4144
2292	7590	06/23/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			BUI, HUNG S	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/673,397

Applicant(s)

YEN, CHI-YU

Examiner

Hung S. Bui

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 3 is objected to because of the following informalities: It is unclear how the electrical connection is connected. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 9 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Ellis [US 4,716,498].

Regarding claims 1-2, Ellis discloses a shell device (figure 7) with a circuit unit comprising a shell (figure 7) having upper and lower shells (43a, 43b) each having inner surface and a circuit unit (figure 7) arranged on the inner surfaces of the shells, wherein the circuit unit has upper and lower circuit units (49a, 49b) mounted on the inner surfaces.

Regarding claims 9 and 17, Ellis discloses the circuit units being adhered to the inner surfaces of the shell (figure 7).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis in view of Yumibe et al. [US 5,466,161].

Regarding claim 3, Ellis discloses everything claimed except for an electrical connection component electrically connecting the upper and lower circuit units.

Yumibe et al. disclose a pair of facing circuit boards (figure 5) connected by an compliant electrical connection component (10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the electrical connection component with Ellis, as suggested by Yumibe et al., for the purpose of providing interconnection between the upper and lower circuit units.

Regarding claim 11, Ellis discloses a shell device (figure 7) with a circuit unit comprising a shell (figure 7) having upper and lower shells (43a, 43b) each having inner surface and a circuit unit (figure 7) arranged on the inner surfaces of the shells, wherein the circuit unit has upper and lower circuit units (49a, 49b) mounted on the inner surfaces.

Ellis discloses everything claimed except for an electrical connection component electrically connecting the upper and lower circuit units.

Yumibe et al. disclose a pair of facing circuit boards (figure 5) connected by an compliant electrical connection component (10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the electrical connection component with Ellis, as suggested by Yumibe et al., for the purpose of providing interconnection between the upper and lower circuit units.

6. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis, as modified, as applied to claim 3 above, and further in view of Aronson et al. [US 2004/0198079].

Regarding claims 4 and 12, Ellis, as modified, disclose everything claimed except the electrical connection being formed of conductive foam.

Aronson et al. disclose a conductive foam member (paragraph 63) connecting a circuit board to ground (figure 6b).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a conductive foam member for the electrical connection component of Ellis, as modified, as suggested by Aronson et al., in order to provide protection against impact.

7. Claims 5-8 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis in view of Saitoh et al. [US 6,175,084].

Regarding claims 5-6 and 13-14, Ellis discloses everything claimed except the circuit units having a conducting layer, an insulating layer and an electrical connection layer with the conducting layer forming a plurality of wires, the insulating layer covering the wires and having a plurality of through holes such that part of the wires are exposed by the through hole and the electrical connection layer being arranged between the wires on the insulating layer and being extended into the through hole to connected the wires.

Saitoh et al. disclose a circuit unit having a conducting layer (5b), an insulating layer (8) and an electrical connection layer (5a) with the conducting layer forming a plurality of wires, the insulating layer covering the wires and having a plurality of through holes such that part of the wires are exposed by the through hole and the electrical connection layer being arranged between the wires on the insulating layer and being extended into the through hole to connected the wires (figure 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the circuit unit design of Saitoh et al. for the circuit units of Ellis for the purpose of protecting the electrical connection layer.

Regarding claims 7-8 and 15-16, Saitoh et al. further disclose an electrical component (4) being mounted on an exposed portion of the conducting layer of the circuit unit (figure 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to mount an electrical component on the circuit unit of Ellis, as modified, and further suggested by Saitoh et al., in order to provide circuit function.

8. Claims 10 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis in view of Brown et al. [US 4,823,233].

Regarding claim 10, Ellis discloses the instant invention except for the circuit unit being printed on the inner surfaces of the shell.

Brown et al. disclose an electronic shell (figure 1) having a circuit unit being printed on the upper and lower inner surfaces of the shell.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a circuit unit design of Brown et al. for the circuit unit of Ellis, for the purpose of reducing a thickness of the shell and circuit assembly cost.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung S. Bui whose telephone number is (571) 272-2102. The examiner can normally be reached on Monday-Friday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

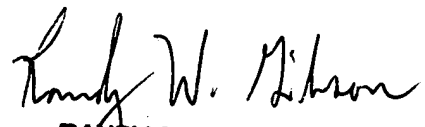
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

6/16/05

*Hung Bui*

Art unit 2841

  
**RANDY GIBSON**  
**PRIMARY EXAMINER**